

In the Claims:

1. (Currently Amended) A method of associating look-up table addresses with media access control (MAC) addresses, the method including for successive MAC addresses A_0 :

using A_0 to generate $y+1$ look-up table addresses $H_0, H_1, H_2, \dots, H_y$, where y is an integer greater than or equal to one, wherein each of the addresses H_1, H_2, \dots, H_y is obtained from the address A_0 by first forming a respective string $[[A_0]] \underline{A}_n$ having the same number of bits as A_0 , and then applying the algorithm by which H_0 is obtained from A_0 ; and

according to at least one criterion associating the address A_0 with a selected one of the addresses $H_0, H_1, H_2, \dots, H_y$.

2. (Currently Amended) $[[A]]$ The method according to claim 1 wherein the criterion is that A_0 is associated with H_n where n is the smallest integer in the range 0 to y such that there is presently no MAC address associated with the address H_n .

3. (Currently Amended) $[[A]]$ The method according to claim 1 wherein the criterion is that A_0 is associated with H_n where n is the smallest integer in the range 0 to y such that the number of MAC addresses associated with the address H_n is less than a predetermined integer.

4. (Currently Amended) $[[A]]$ The method according to claim 1 wherein the addresses H_1 to H_y are generated successively upon it being found that the preceding H_n does not meet a criterion.

5. (Currently Amended) $[[A]]$ The method according to claim 4 wherein the value of y is predetermined, whereby the maximum number of addresses $H_0, H_1, H_2, \dots, H_y$ which are

generated is no more than a predetermined number, even if none of these addresses meets the criterion.

6. (Canceled)

7. (Currently Amended) [[A]] The method according to claim 1 wherein each A_n is obtained by modulating a string S_n obtained by a selection from A_0 with a respective set of Walsh codes.

8. (Previously Presented) A switch including a memory for defining a look-up table having a plurality of addresses and a processor for associating MAC addresses with addresses of the look-up table, the processor being arranged to use each MAC address A_0 to generate $y+1$ look-up table addresses $H_0, H_1, H_2, \dots, H_y$ for y an integer greater than or equal to one, wherein each of the addresses H_1, H_2, \dots, H_y is obtained from the address A_0 by first forming a respective string A_n having the same number of bits as A_0 , and then applying the algorithm by which H_0 is obtained from A_0 , and according to at least one criterion to associate the address A_0 with a selected one of the addresses $H_0, H_1, H_2, \dots, H_y$.

9. (Currently Amended) [[A]] The method according to claim 2 wherein the addresses H_1 to H_y are generated successively upon it being found that the preceding H_n does not meet a criterion.

10. (Currently Amended) [[A]] The method switch according to claim 8 wherein the addresses H_1 to H_y are generated successively upon it being found that the preceding H_n does not meet a criterion.

11. (Currently Amended) [[A]] The method according to claim 3 wherein the addresses H_1 to H_y are generated successively upon it being found that the preceding H_n does not meet a criterion.

12. (Canceled)

13. (Previously Presented) A method of associating look-up table addresses with media access control (MAC) addresses, the method comprising:

receiving a MAC address;

generating a first look-up table address based upon the MAC address, the first look-up address being generated using an algorithm;

determining whether the first look-up table address is occupied; and

if the first look-up table address is occupied, generating a second look-up table address by forming a string having the same number of bits as the MAC address and applying the algorithm to the string.

14. (Currently Amended) The method of claim [[12]] 13 and further comprising:

determining whether the second look-up table address is occupied; and

if the second look-up table address is occupied, generating a third look-up table address

by forming a second string having the same number of bits as the MAC address and applying the algorithm to the string.

15. (Currently Amended) The method of claim ~~[[13]]~~ 14 and further comprising:
determining whether the third look-up table address is occupied; and
if the third look-up table address is occupied, generating a fourth look-up table address by forming a third string having the same number of bits as the MAC address and applying the algorithm to the string.
16. (Currently Amended) The method of claim ~~[[12]]~~ 13 wherein determining whether the first look-up table address is occupied comprises determining whether any other MAC address is associated with the first look-up table address such that only one MAC address is associated with any given look-up table address.
17. (Currently Amended) The method of claim ~~[[12]]~~ 13 wherein determining whether the first look-up table address is occupied comprises determining whether fewer than n MAC addresses associated with the first look-up table address such that the number of MAC addresses associated with the first look-up table address is less than n, wherein n is an integer greater than one.
18. (Currently Amended) The method of claim ~~[[12]]~~ 13 wherein generating a second look-up table address comprises modulating the string with a Walsh code.

19. (Currently Amended) The method of claim ~~[[12]]~~ 13 wherein generating a first look-up table address comprises hashing the MAC address with a Cyclic Redundancy Code (CRC).

20. (Currently Amended) The method of claim ~~[[12]]~~ 13 and further comprising, if the first look-up table address is not occupied, associating the MAC address with the first look-up table address.

21. (Currently Amended) The method of claim ~~[[19]]~~ 20 wherein the step of generating a second look-up table address is not performed if the first look-up table address is not occupied.

22. (Currently Amended) ~~[[The]]~~ A method of extracting information related to a media access control (MAC) address, the method comprising:

receiving a MAC address;

generating a first look-up table address by applying an algorithm to the MAC address;

determining whether the first look-up table address is associated with the MAC address;

if the first look-up table address is associated with the MAC address, extracting information related to the MAC address from a look-up table using the first look-up table address;

if the first look-up table address is not associated with the MAC address, generating a second look-up table address by forming a string having the same number of bits as the MAC address and applying the algorithm to the string;

determining whether the second look-up table address is associated with the MAC address; and

if the second look-up table address is associated with the MAC address, extracting information related to the MAC address from the look-up table using the second look-up table address.

23. (Currently Amended) The method of claim ~~[[21]]~~ 22 wherein determining whether the first look-up table address is associated with the MAC address comprises examining correspondence data at the first look-up table address in the look-up table.